

FITTER			
LIST OF TOOLS AND EQUIPMENT (For batch of 20 candidates)			
S no.	Name of the Tool & Equipments	Specification	Quantity
A. TRAINEES TOOL KIT (For each additional unit trainees tool kit Sl. 1-18 is required additionally)			
1.	Steel Rule with metric & British graduation	150 mm, Stainless steel	(20+1) Nos.
2.	Try Square.	150 mm blade	(20+1) Nos.
3.	Caliper inside spring type.	150 mm	(20+1) Nos.
4.	Caliper hermaphrodite spring type	150 mm	(20+1) Nos.
5.	Caliper outside spring type	150 mm	(20+1) Nos.
6.	Divider spring type	150 mm	(20+1) Nos.
7.	Scriber	150 mm	(20+1) Nos.
8.	Centre Punch	10 mm and Length - 120 mm	(20+1) Nos.
9.	Screw driver	150mm insulated flat type	(20+1) Nos.
10.	Chisel cold flat	20 mm X 150 mm High carbon steel	(20+1) Nos.
11.	Hammer ball peen with handle	450 grams (1 lb)	(20+1) Nos.
12.	Hammer ball peen with handle.	220 grams (1/2 lb)	(20+1) Nos.
13.	File flat - second cut	250 mm	(20+1) Nos.
14.	File flat smooth	250 mm.	(20+1) Nos.
15.	File half round second cut	150 mm.	(20+1) Nos.
16.	Hacksaw frame fixed type	300 mm	(20+1) Nos.
17.	Safety goggles.		(20+1) Nos.
18.	Dot punch	100 mm	(20+1) Nos.
B. INSTRUMENTS AND GENERAL SHOP OUTFIT - For 2 (1+1) units no additional items are required			
INSTRUMENTS			
19.	Steel Rule Graduated both in Metric and English Unit	300 mm Stainless steel	4 nos.
20.	Straight edge steel	300 mm or above	2 nos.
21.	Spirit Level metal Type - 2	300 mm Basic Length Accuracy 0.1mm/Meter	1 no.
22.	Stud Extractor EZY - out	Set of 8	2 sets
23.	Combination Set	300 mm	2 nos.

24.	Micrometer outside.	0 - 25 mm	2 nos.
25.	Micrometer outside.	25 - 50 mm	2 nos.
26.	Micrometer outside.	50 - 75 mm	2 nos.
27.	Micrometer inside with extension rods.	Accuracy 0.01 mm with extension rods up to 150 mm	1 no.
28.	Vernier caliper	150 mm	4 nos.
29.	Vernier height gauges	0 - 300 mm with least count = 0.02 mm	1 no.
30.	Vernier bevel protractor Blade with Acute Angle Attachment	300 mm	1 no.
31.	Screw pitch gauge Metric	0.25 to 6 mm	1 no.
32.	Wire gauge, metric standard.		1 no.
GENERAL SHOP OUTFIT			
33.	Surface plate C.I/Granite with Stand and Cover	600 x 600 mm	1 no.
34.	Marking table (Mild steel)	900X900X900 mm	1 no.
35.	Universal scribing block.	220 mm	2 nos.
36.	V-Block pair with clamps	150 x 100 x 100 mm	2 nos.
37.	Angle plate	150 X 150 X 250 mm	2 nos.
38.	Punch letter set.	3 mm	1 no.
39.	Punch number set.	3 mm	1 no.
40.	Portable hand drill (Electric)	0 to 13 mm Capacity	1 no.
41.	Drill twist straight shank	3 mm to 12 mm by 0.5 mm H.S.S.	2 sets
42.	Drill twist Taper shank	8 mm to 20 mm by 0.5 mm H.S.S.	2 sets
43.	Taps and dies complete set in box.	Whitworth	1 no.
44.	Taps and dies complete set	5, 6, 8, 10 & 12mm set of 5	2 Sets
45.	File knife edge smooth	150 mm	4 nos.
46.	File feather edge smooth	150 mm	4 nos.
47.	File triangular smooth	200 mm	10 nos.
48.	File round second cut	200 mm	10 nos.
49.	File square second cut	250 mm	10 nos.
50.	Feeler gauge	Gauge Feeler / Thickness - 0.05 mm to 0.3 mm by 0.05 and 0.4 mm to 1 mm by 0.1 mm - 13 leaves	1 set
51.	File triangular second cut.	200 mm	10 nos.
52.	File flat second cut safe edge.	300 mm	10 nos.
53.	File flat bastard	200 mm	10 nos.
54.	File flat bastard.	300 mm	10 nos.

55.	File Swiss type needle	Set of 12, Length = 150 mm	2 sets
56.	File half round second cut.	250 mm	10 nos.
57.	File half round bastard.	250 mm	10 nos.
58.	File round bastard.	250 mm	10 nos.
59.	File hand second cut.	150 mm	10 nos.
60.	File card.	3"x5" size, brass or steel wire	10 nos.
61.	Oil Can	250 ml	2 nos.
62.	Pliers combination insulated	150 mm	2 nos.
63.	Wooden handle forged Soldering Iron copper bit.	230V, 250 W, 350 gm	2 nos.
64.	Blow Lamp	0.5 litre	2 nos.
65.	Spanner- Double Ended	6x7, 8x9, 10x11, 12x13, 14x15, 16x17, 18x19, 20x22	1 set each
66.	Spanner adjustable	150 mm	2 nos.
67.	Interchangeable ratchet socket set	12 mm driver, sized 10-32 mm set of 18 socket & attachments.	1 set
68.	Double Ended tubular Box spanner set with Tommy bar.	A/F 6-25 mm set of 10 Tommy Bar Dia. 6, 8, 10, 12, 14, 16	1 set
69.	Glass magnifying	75 mm	2 nos.
70.	Clamp toolmaker	5 cm and 7.5 cm set of 2.	2 nos.
71.	Clamp "C"	100 mm	2 nos.
72.	Clamp "C"	200 mm	2 nos.
73.	Hand Reamer set (Taper pin straight flute)	Nominal Dia. 6, 8, 10, 12, 16mm	1 set
74.	Machine Reamer parallel (Helical flute)	12 - 16mm set of 5.	1 no.
75.	Scraper flat	150 mm	10 nos.
76.	Scraper triangular	150 mm	10 nos.
77.	Scraper half round	150 mm	10 nos.
78.	Chisel cold crosscut& diamond point.	9 mm X 150 mm	10 each
79.	Chisel cold flat	9 mm X 100 mm	10 nos.
80.	Chisel cold round nose	9 mm X 100 mm	10 nos.
81.	Drill chuck with key	12 mm.	1 no.
82.	Pipe wrench	400 mm	1 no.
83.	Pipe vice	100 mm	1 no.
84.	Adjustable pipe die set BSP	cover pipe size 1" or 3/4"	1 Set
85.	Wheel dresser (One for 4 units) Star/Dresser with Holder	Length 150 mm, diamond point	1 no.
86.	Machine vice - Swivel Base	100 mm	1 no.

87.	Machine vice - Swivel Base	125 mm	1 no.
88.	Sleeve drill Morse	No. 0 - 1, 1 - 2, 2 - 3, 3 - 4, 4 - 5	1 Set
89.	Vice bench	150 mm	20 nos.
90.	Bench working.	2400 x 1200 x 900 mm	4 nos.
91.	Almirah.	1800 x 900 x 450 mm	2 nos.
92.	Lockers with 8 drawers (standard size).	One locker for each trainee	3 nos.
93.	Metal rack	1820 x 1820 x 450 cm	1 no.
94.	Instructor Table		
95.	Instructor Chair		
96.	Black board with easel.		
97.	Fire extinguisher (For 4 Units)	CO2 type, 3 kg capacity	
98.	Fire buckets.		
99.	Machine vice.	100mm	2 nos.
100.	Wing compass.	254 mm or 300 mm	2 nos.
101.	Hand hammer with handle.	1000 gm	1 nos.
102.	Torque wrench (Standard/Ratchet type)	14 to 68 Nm	1 no.
103.	Power tools for fastening	Capacity 10-18mm	1 No.
104.	Different Profile gauges (Plate type) - For demonstration	Metric standard	4 nos.
105.	Knurling tool (Diamond, straight & Diagonal)		1 each
106.	Indexable boring bar with inserts	1" shank	4 nos.
107.	Machine maintenance manual for Lathe, Pedestal grinder, Drill machine, Power saw		1
108.	Temperature gauge	Range 0 - 150°C	1 each
109.	Dowel pin (straight)	Dia. -1" Length -4" (Mat: Stainless Steel)	1 each
110.	Standard Tap screws	M3, M4, M5, M6, M8, M10, M12, M14, M16	1 each
111.	Lapping plate	Dia. -6"	2 each
112.	Medium carbon Heat treated alloy steel Metric Studs and bolts along with nuts (for display) of standard length (May be manufactured in-house)	M6, M8, M10, M12, M14, M16 (Standard)	2 each
113.	Caps screws	M6, M8, M10, M12	2 each
114.	Drill gauges	Letter drill gauge (A to Z), Number drill gauge (1 to 60), Metric drill gauge (1.5mm to 12.5mm, 30 holes)	2 nos.

115.	Cast Iron Globe Valve (Flanged type)	150NB, Class# 150 Flange: ANSI125-B16.1	2 nos.
116.	C.I. Sluice / Gate valve (flanged type)	150NB, Class# 150 Flange: ANSI125-B16.1	2 nos.
117.	Stop cock	25NB (2-way, Threaded end)	2 nos.
118.	M.S. Pipe	150NB, Sch.40, ERW, IS:1239	as required
119.	G.I. Pipe	25mm, Sch.40, ERW	as required
120.	Slip-on Forged steel Flange	150NB, ANSI-B16.5, Class#150	4 nos.
121.	Bolt & Nut with washer (May be manufactured in-house)	M20x2.5x90Long (part thread - Hex. Head)	20 nos.
122.	Pipe threading die with handle	Ratchet type Die head of 1/2", 3/4" and 1"	2 nos.
123.	Jigs & Fixture (sample)-For demonstration (May be manufactured in-house)		1 no.
124.	Pulleys (for V-belt or Flat belt)	to fit on 50mm dia. Shaft with key slot	1 no.
125.	Steel keys (May be manufactured in-house)	to fit with key slot of shaft & pulley	2 nos.
126.	Damaged old spur gear	to fit 50mm dia. Shaft	2 nos.
127.	V-belt and Flat belt	to fit on pulley	1 each
128.	Packing gasket	PTFE gasket roll small size	1 no.
129.	Washer, clutch, keys, jib, cotter & circlip	minimum 25mm size, carbon steel material	2 each
130.	Hollow punch	Straight Shank Hollow Punch Sets 5-12mm	1 set
131.	Drill Drift (May be manufactured in-house)	200mm hardened and black finish	2 nos.
132.	Bearing different types	each type of diameter 25mm (min.)	1 each
133.	Lifting sling	8mm Nominal Dia. Single leg sling	2 nos.
134.	Bearing extractor	Universal gear puller 2 or 3 jaws adjustable	1 no.
135.	Pulley extractor	- do -	1 no.
C. TOOLS FOR ALLIED TRADE - SHEET METAL WORKER (Note: - Those additional items are to be provided for the Allied Trade Training where the Sheet Metal trade does not exist.)			
136.	Trammel	300 mm	1 no.
137.	Pocker		2 nos.
138.	Prick punch	100 mm	2 nos.

139.	Mallet.	Dia. 100 mm X 150 mm	2 nos.
140.	Aviation Snips straight Cut	300 mm	2 nos.
141.	Flat headed hammers with handle.		2 nos.
142.	Planishing hammer.		2 nos.
143.	Snip bent Left Cut	250 mm	2 nos.
144.	Stake hatchet with Leg.	300 X 200 X 20 mm	2 nos.
145.	Stake grooving.	100 X 100 X 300 mm	2 nos.
D. MODIFIED LIST OF TOOLS FOR THE 2ND YEAR FOR FITTER TRADE			
INSTRUMENT			
146.	Slip Gauge as Johnson metric set.	87 Pieces Set	1 Set
147.	Gauge snap Go and Not Go	25 to 50 mm by 5 mm, Set of 6 pieces	1 Set
148.	Gauge plug	Single ended 5 to 55 by 5 mm. Set of 11 pcs.	1 Set
149.	Gauge telescopic set.	8 - 150 mm	1 no.
150.	Dial test indicator on stand	0.01 mm least count	1 no.
151.	Sine bar	125 mm	1 no.
152.	Dial Vernier caliper. (Universal type)	0 - 300 mm, LC 0.05 mm	1 no.
153.	Screw thread micrometer with interchangeable. Pitch anvils for checking metric threads 60.	0 - 25 mm LC 0.01 mm	1 no.
154.	Depth micrometer. 0-25 mm	Accuracy 0.01 mm with standard set of extension rods up to 200 mm	1 no.
155.	Digital vernier caliper.	0 - 150 mm with least count 0.02mm	1 no.
156.	Digital Micrometer outside.	0 - 25 mm L.C. 0.001 mm.	1 no.
157.	Comparators Gauge - Dial Indication with Stand and Bracket.	LC 0.01mm	1 no.
158.	Engineer's try square (knife-edge)	150 mm Blade	1 no.
159.	Surface roughness comparison plates	N1 - N12 Grade	1 Set
160.	Digital Vernier caliper	0 - 200 mm L.C. 0.01 mm (Optional)	1no.
161.	Vernier Bevel protector	Range 360deg, LC. : 5min(150mm blade)	1no.
GENERAL SHOP OUTFIT			
162.	Carbide Wear Block.	1 mm - 2 mm	2 each
163.	Lathe tools H.S.S. tipped set.		2 nos.
164.	Lathe tools bit.	6 mm x 75 mm HSS/Carbide	4 nos.
165.	Lathe tools bit.	8 mm x 75 mm HSS/Carbide	4 nos.

166.	Lathe tools bit.	10 mm x 75 mm HSS/Carbide	4 nos.
167.	Arm strong type tool bit holder.	Right hand	2 nos.
168.	Arm strong type tool bit holder.	Left hand	2 nos.
169.	Arm strong type tool bit holder.	Straight	2 nos.
170.	Stilson wrenches	250 mm	2 nos.
171.	Pipe cutter wheel type.	6 mm to 25 mm	1 no.
172.	Pipe bender machine spool type with stand manually operated.	up to 25 mm cold bending	1 no.
173.	Adjustable pipe chain tonge to take pipes	up to 300 mm	1 no.
174.	Adjustable spanner.	380 mm long	1 no.
E. GENERAL MACHINERY INSTALLATION			
175.	SS and SC centre lathe (all geared) with minimum specification	Centre height 150 mm and centre distance 1000 mm along with 3 & 4 jaw chucks, auto feed system, safety guard, taper turning attachment, motorized coolant system, lighting arrangement & standard accessories.	2 Nos.
176.	Pillar Type Drilling machine	Sensitive 0-20 mm cap. with swivel table motorized with chuck & key.	1 no.
177.	Drilling machine bench	Sensitive 0-12 mm cap motorized with chuck and key.	2 nos.
178.	D.E. pedestal Grinding machine with wheels rough and smooth	2 H.P.-3Phase-415V, 1500 rpm, 250 dia. wheel	1 no.
F. LIST OF ADDITIONAL TOOLS FOR ALLIED TRADE IN WELDING (Note: - Those additional items are to be provided for the Allied Trade Training where the Welder trade does not exist.)			
179.	Transformer welding set - continuous welding current, with all accessories and electrode holder 60% Duty Cycle with Standard Accessories	300 A, OCV 60 - 100 V,	1 Set
180.	Welder cable	Able to carry 300 amps. With flexible rubber cover	20 Meter
181.	Lugs for cable		12 Nos.
182.	Earth clamps.		2 Nos.
183.	Arc welding table (all metal top) with	1200 X 1200 X 750 mm	1 No.

	positioner.		
184.	Oxy - acetylene gas welding set equipment with hoses, Oxygen & Acetylene cylinders, regulator and other accessories.		1 Set.
185.	Gas welding table with positioner with Fire Bricks	900 X 600 X 750 mm	1 No
186.	Welding torch tips of different sizes for Oxy - acetylene gas welding	To fit nozzle no. 1, 2, & 3	1 Set
187.	Gas lighter.		2 Nos.
188.	Trolley for gas cylinders.		1 No
189.	Chipping hammer.		2 Nos.
190.	Gloves (Leather)		2 Pairs
191.	Leather apron.		2 Nos.
192.	Spindle key for cylinder valve.		2 Nos.
193.	Welding torches.	Nozzles no. 1, 2, & 3	1 Set.
194.	Welding goggles		4 Pairs.
195.	Welding helmet with coloured flame retardant glass		2 Nos.
196.	Tip cleaner		5 Sets.
#G. LIST OF TOOLS & ACCESSORIES FOR PNEUMATICS AND HYDRAULICS			
197.	Compressor unit	suitable for Pressure: 8 bar, Delivery: 50 lpm (or more), Reservoir capacity: 24 Litres (or more), 230V, 50 Hz, with pressure regulator and water separator	1 No.
198.	Pneumatic Trainer Kit, each consisting of the following matching components and accessories:		01 sets
	I. Single acting cylinder	Max. stroke length 50 mm, Bore dia. 20 mm	1 No
	II. Double acting cylinder	Max. stroke length 100 mm, Bore dia 20 mm, magnetic type	1 No
	III. 3/2-way valve	manually-actuated, Normally Closed	2 Nos.
	IV. 3/2-way valve	pneumatically-actuated, spring return	1 No
	V. One-way flow control valve		2 Nos.
	VI. 5/2-way valve	with manually-operated switch	1 No

	VII.	5/2-way valve	pneumatically-actuated, spring return	1 No
	VIII.	5/2-way pneumatic actuated valve	double pilot	1 No
	IX.	3/2-way roller lever valve	direct actuation Normally Closed	2 Nos.
	X.	Shuttle valve (OR)		1 No
	XI.	Two-pressure valve (AND)		1 No
	XII.	Pressure gauge	0-16 bar	1 Nos.
	XIII.	Manifold with self-closing	NRV, 6-way	1 No
	XIV.	Pushbutton station for electrical signal input	with 3 illuminated momentary-contact switches (1 NO + 1 NC) and 1 illuminated maintained-contact switch (1 NO + 1 NC), Contact load 2A	1 No
	XV.	Relay station	with 3 relays each with 4 contact sets (3NO+1NC or Change-over type), 5 A	1 No
	XVI.	3/2-way single solenoid valve	with LED	1 No
	XVII.	5/2-way single solenoid valve	with manual override and LED	1 No
	XVIII.	5/2-way double solenoid valve	with manual override and LED	1 No
	XIX.	Power supply unit,	Input voltage 85 – 265 V AC, Output voltage: 24 V DC, Output current: max. 4.5 A, short-circuit-proof.	1 No
	XX.	Profile plate, Anodised Aluminium	1100x700 mm, with carriers, mounting frames and mounting accessories (To be fitted onto the pneumatic workstation)	1 set
199.		Pneumatic Workstation with 40 square mm aluminium profile legs, wooden work surface, and one pedestal drawer unit having 5 drawers, each with handles and individual locks, on metallic full panel drawer slide:	(1) Worktable – Size (Approx.) L1200mmXW900mmXH900 mm, with four castor wheels including two lockable wheels at the front side, (2) Drawer – Size (Approx.) – L460mmxW495mm xH158mm each, and overall size of Drawer unit (Approx.)	1 No

		- L470mmxW495mmxH825mm and (3) Drawer slide height (Approx.) 85mm.	
200.	Carrier for mounting components, such as PB & relay boxes.		1 No
201.	Cut section model for pneumatic components		1 set
202.	Hydraulic Trainer Kit, each consisting of the following matching components and accessories:		01 set
	I. Hydraulic Power pack	with (1) external gear pump having a delivery rate of 2.5 lpm, (approx.) @ 1400 rpm operating pressure 60 bar, coupled to a single-phase AC motor (230 V AC) having start capacitor and ON/OFF switch and overload protection, (2) pressure relief valve adjustable from 0 – 60 bar, (3) oil reservoir, ≥5 litres capacity having sight glass, drain screw, air filter, and P and T ports.	1 No.
	II. Pressure relief valve	pilot-operated	1 No
	III. Drip tray, steel	size 1160 mm x 760 mm.	1 No.
	IV. Pressure Gauge	Glycerin-damped, Indication range of: 0 – 100 bars	1 No.
	V. Four-Way distributor	with five ports, equipped with a pressure gauge	1 No.
	VI. Double acting hydraulic cylinder	with a control cam, Piston diameter 16 mm, Piston rod diameter 10 mm, Stroke length 200 mm.	1 No.
	VII. Suitable Weight	for vertical loading of hydraulic cylinder	1 No.
	VIII. Mounting kit for weight	for realizing pulling and pushing load.	1 No.
	IX. 3/2-way directional control valve	with hand lever actuation.	1 No.
	X. 4/2-way directional control valve	with hand lever actuation.	1 No.
	XI. 4/3-way directional control valve	closed-centre position, with	1 No.

		hand lever actuation.	
	XII. Non-return valve.		1 No.
	XIII. Pilot-operated check valve	Pilotto open.	1 No.
	XIV. One-way flow control valve	Withintegrated check valve.	1 No.
	XV. T-Connector with self-sealing coupling nipples (2 Nos.) and quick coupling socket (1 No.).		2 Nos.
	XVI. Profile plate,	Anodised Aluminium, 1100x700 mm, with carriers, mounting frames and mounting accessories (To be fitted onto the Hydraulic workstation)	1 set
203.	Hydraulic Workstation with 40 square mm aluminium profile legs, wooden work surface, and one pedestal drawer unit having 5 drawers, each with handles and individual locks, on metallic full panel drawer slide:	(1) Worktable – Size (Approx.) L1200mmxW900mmXH900 mm, with four castor wheels including two lockable wheels at the front side, (2) Drawer – Size (Approx.) – L460mmxW495mm xH158mm each, and overall size of Drawer unit (Approx.) L470mmxW495mmxH825mm and (3) Drawer slide height (Approx.) 85mm.	1 No
204.	Cut-section models for hydraulic components		1 set
<p>Note: -</p> <ol style="list-style-type: none"> 1. All the tools and equipment are to be procured as per BIS specification. 2. For items under #G (List of Tools & Accessories for Pneumatics and Hydraulics), may be installed in the existing workshop for units up to 8 (4+4). For units beyond 8(4+4), separate room (having area: 20 sq. m) for installation of these items is essential. 3. Internet facility is desired to be provided in the classroom. 			

The DGT sincerely acknowledges contributions of the Industries, State Directorates, Trade Experts, Domain Experts, trainers of ITIs, NSTIs, faculties from universities and all others who contributed in revising the curriculum.

Special acknowledgement is extended by DGT to the following expert members who had contributed immensely in this curriculum.

List of Expert members contributed/ participated for finalizing the course curriculum of Fitter trade held on 12.01.17 at CSTARI, Kolkata			
S No.	Name & Designation Shri/Mr./Ms.	Organization	Remarks
1.	DEEPANKAR MALLICK, DDG (Trg.)	DGT, MSDE, New Delhi	Chairman
2.	H. V. SAMVATSAR, Director	CSTARI, Kolkata	Secretary (Trade Committee)
3.	NIRMALYA NATH Asst. Director of Trg.	CSTARI, Kolkata	Member cum Co- coordinator
4.	RAJENDRA PRASAD Director	DTE, Uttar Pradesh	Member
5.	R. N. BANDYOPADHAYA OSD	Paschim Banga Society For Skill Development, Kolkata	Member
6.	SUMANTA MODAK, General Manager (Works)	EVEREADY Industries Pvt. Ltd. (Representative of <i>CII</i>)	Member
7.	S. D. SATISH CHANDRA, Manager (HR), Trg.	HAL – Koraput Division, Koraput, Odisha	Member
8.	SUMANTA CHATTERJEE Addl. General Manager	BHEL, Power Sector ER	Member
9.	P. C. BHANDARI Technical Advisor	J K Cement Ltd. Kanpur	Member
10.	SANJIT BHOWMICK Asst. General Manager	Hindalco Industries Ltd., Belur Math, Howrah	Member
11.	DEBASHIS BHATTACHARYYA, JWM,/FTI	Rifle Factory, Ishopore, Ministry of Defence, Govt. India, WB	Member
12.	SATYABADI SATAPATHY	HAL – Koraput Division, Koraput,	Member

	Training Officer	Odisha	
13.	PRABHAT SAMIR PAL Jr. Manager	GRSE Ltd., Kolkata	Member
14.	JOYDEEP PAL MAJUMDER Asst. Work Manager	Rifle Factory, Ishapore, Ministry of Defence, Govt. India, WB	Member
15.	BHABANI PROSAD MONDAL CM/FTI	Rifle Factory, Ishapore, Ministry of Defence, Govt. India, WB	Member
16.	SUNIRMAL BASU, Asst. Inspecting Officer	Railway Workshop, Kanchrapara	Member
17.	K. L. KULI Joint Director of Trg.	CSTARI, Kolkata	Member
18.	M. THAMIZHARASAN, Joint Director of Trg.	CSTARI, Kolkata	Member
19.	SANJAY KUMAR Joint Director of Trg.	CSTARI, Kolkata	Member
20.	L. K. MUKHERJEE Dy. Director of Trg.	CSTARI, Kolkata	Member
21.	U. K. MALLICK, Dy. Director	DTE&T, Odisha	Member
22.	N. R. PATTANAIK Principal	Govt. ITI Balasore, Odisha	Member
23.	DEEPAK KUMAR, SSE/Drg./C&W	Railway Workshop, Kanchrapara	Member
24.	D. W. PATNE, Secretary	Association of Non Govt. ITI, Maharastra	Member
25.	VIVEK CHAUDHARI Principal	Ujjwal ITI Nashirabad, Dist- Jalgaon, Maharastra	Member
26.	Fr. JOSE PADAMATTAM Principal	Don Bosco Technical Institute, Park Circus	Member
27.	SWAMI GUNINDRANANDA Superintendent	R. K. Mission ShilpayatanBelurmth, Howrah	Member
28.	TAPAS SENGUPTA, Instructor	ITI Howrah Homes	Member
29.	DEBIPROSHAD SARKAR, Instructor	ITI Howrah Homes	Member
30.	G. B. KOLAPATE, Instructor	Govt. ITI Andhari, Mumbai, Maharastra	Member
31.	H. B. KOSHTI,	Govt. ITI Byculla, Mumbai -	Member

	Craft Instructor	400011	
32.	NAGESH BALAKRISHNA NARKAR, Craft Instructor	ITI Ambernath, Thane, Maharastra	Member
33.	PARTHA SARKAR, Jr. Engineer/Drawing (Mech.)	Railway Workshop, Kanchrapara	Member
34.	SWAPAN K. BHATTACHARYA Instructor	STC/KPA, Eastern Railways, Kanchrapara	Member
35.	BIKASH CHAUDHURI, Instructor	Ramakrishna Mission Shilpayatan, Belur, Howah	Member
36.	SACHIN M. LAMSE Instructor	ITI Aundh, Pune, Maharastra	Member
37.	SOMNATH B. SAPKAL, Instructor	ITI Anudh, Pune, Maharastra	Member
38.	K. K. PANIGRAHI Instructor	Gun Shell Factory, Cossipore	Member
39.	R. N. MANNA, Training Officer	CSTARI, Kolkata	Member
40.	HARADHAN DAS, Training Officer	CSTARI, Kolkata	Member
41.	TARAKNATH GARAI Instructor	ITI Howrah Homes	Member
42.	SUDHANGSHU MUKHERJEE, Sr. Tech./Dy. CEE/KPN	Eastern Railway, Kanchrapara	Member
43.	S. N. TAMBATKAR, Craft Instructor	Govt. ITI, Adheri, Mumbai	Member

S No.	Name & Designation Shri/Mr./Ms.	Organization	Mentor Council Designation
Members of Sector Mentor council			
1.	A. D. Shahane, Vice- President, (Corporate Trg.)	Larsen & Turbo Ltd., Mumbai:400001	Chairman
2.	Dr.P.K.Jain, Professor	IIT, Roorkee, Roorkee-247667, Uttarakhand	Member
3.	N. Ramakrishnan, Professor	IIT Gandhinagar, Gujarat-382424	Member
4.	Dr.P.V.Rao, Professor	IIT Delhi, New Delhi-110016	Member
5.	Dr.Debdas Roy, Asstt. Professor	NIFFT, Hatia, Ranchi-834003, Jharkhand	Member

6.	Dr. Anil Kumar Singh, Professor	NIFFT, Hatia, Ranchi-834003, Jharkhand	Member
7.	Dr.P.P.Bandyopadhyay Professor	IIT Kharagpur, Kharagpur-721302, West Bengal	Member
8.	Dr.P.K.Ray, Professor	IIT Kharagpur, Kharagpur- 721302, West Bengal	Member
9.	S. S. Maity, MD	Central Tool Room & Training Centre (CTTC), Bhubaneswar	Member
10.	Dr. Ramesh Babu N, Professor	IIT Madras, Chennai	Member
11.	R.K. Sridharan, Manager/HRDC	Bharat Heavy Electricals Ltd, Ranipet, Tamil Nadu	Member
12.	N. Krishna Murthy Principal Scientific Officer	CQA(Heavy Vehicles), DGQA, Chennai, Tamil Nadu	Member
13.	Sunil Khodke Training Manager	Bobst India Pvt. Ltd., Pune	Member
14.	Ajay Dhuri	TATA Motors, Pune	Member
15.	UdayApte	TATA Motors, Pune	Member
16.	H B Jagadeesh, Sr. Manager	HMT, Bengaluru	Member
17.	K Venugopal Director & COO	NTTF, Peenya, Bengaluru	Member
18.	B.A.Damahe, Principal L&T Institute of Technology	L&T Institute of Technology, Mumbai	Member
19.	Lakshmanan. R Senior Manager	BOSCH Ltd., Bengaluru	Member
20.	R C Agnihotri Principal	Indo- Swiss Training Centre Chandigarh, 160030	Member
21.	M. K. Verma, Sr. Manager Trg. Capability Development	SNTI, TATA Steel Ltd., Jamshedpur	Member
22.	N.K. Thakur, DGM-Trg.	L&T, Construction and Mining Machinery, Kanchipuram.	Member
23.	Vijayan K T	Volkswagen Academy, Pune	Member
Mentor			
24.	Sunil Kumar Gupta, Director	DGET HQ, New Delhi.	Mentor
Members of Core Group			
25.	N. Nath. (ADT)	CSTARI, Kolkata	Co-ordinator
26.	H.Charles (TO)	NIMI, Chennai.	Member
27.	Sukhdev Singh (JDT)	ATI Kanpur	Team Leader

28.	Ravi Pandey (V.I)	ATI Kanpur	Member
29.	A.K. Nasakar (T.O)	ATI Kolkata	Member
30.	Samir Sarkar (T.O)	ATI Kolkata	Member
31.	J. Ram EswaraRao (T.O)	RDAT Hyderabad	Member
32.	T.G. Kadam (T.O)	ATI Mumbai	Member
33.	K. Mahendar (DDT)	ATI Chennai	Member
34.	Shrikant S Sonnavane (T.O)	ATI Mumbai	Member
35.	K. Nagasrinivas(DDT)	ATI Hyderabad	Member
36.	G.N. Eswarappa (DDT)	FTI Bangalore	Member
37.	G. Govindan, Sr. Draughtsman	ATI Chennai	Member
38.	M.N.Renukaradhya, Dy.Director/Principal Grade I.,	Govt. ITI, Tumkur Road, Banglore, Karnataka	Member
39.	B.V.Venkatesh Reddy. JTO	Govt. ITI, Tumkur Road, Banglore, Karnataka	Member
40.	N.M.Kajale, Principal	Govt. ITI Velhe, Distt: Pune, Maharashtra	Member
41.	SubrataPolley, Instructor	ITI Howrah Homes, West Bengal	Member
42.	Vinod KumarR Sr.Instructor	Govt.ITIDhanuvachapuram Trivandrum, Dist., Kerala	Member
43.	M. Anbalagan, B.E., Assistant Training Officer	Govt. ITI Coimbatore, Tamil Nadu	Member
44.	L.K.Mukherjee, DDT	CSTARI, Kolkata	Member
45.	R. N. Manna, TO	CSTARI, Kolkata	Member
Other industry representatives			
46.	VenugopalParvatikar	Skill Sonics, Bangalore	Member
47.	VenkataDasari	Skill Sonics, Bangalore	Member
48.	Srihari, D	CADEM Tech. Pvt. Ltd., Bengaluru	Member
49.	Dasarathi.G.V.	CADEM Tech. Pvt. Ltd., Bengaluru	Member
50.	L.R.S.Mani	Ohm Shakti Industries, Bengaluru	Member
51.	P. Joji, Ex-JDT	DGT, MSDE, New Delhi	Member
52.	K. Lakshmi Narayanan	Skill Development Centre, JBM Auto System Pvt. Ltd., Kancheepuram	Member

ABBREVIATIONS

CTS	Craftsmen Training Scheme
ATS	Apprenticeship Training Scheme
CITS	Craft Instructor Training Scheme
DGT	Directorate General of Training
MSDE	Ministry of Skill Development and Entrepreneurship
NTC	National Trade Certificate
NAC	National Apprenticeship Certificate
NCIC	National Craft Instructor Certificate
LD	Locomotor Disability
CP	Cerebral Palsy
MD	Multiple Disabilities
LV	Low Vision
HH	Hard of Hearing
ID	Intellectual Disabilities
LC	Leprosy Cured
SLD	Specific Learning Disabilities
DW	Dwarfism
MI	Mental Illness
AA	Acid Attack
PwD	Person with disabilities

